

What is claimed is:

1. A protective ring for a fan protective casing of a gas turbine engine, comprising a penetration sleeve having an alternation of several, interconnected strata, each comprising a metal band and a polymer-impregnated fiber-weave layer.
2. A protective ring in accordance with Claim 1, wherein the polymer-impregnated fiber-weave layers comprise at least one of glass fibers, polyethylene fibers, polyamide fibers, aramide fibers and carbon fibers impregnated with at least one of polyester and highly energy-absorbing resins, and the metal bands are constructed of at least one of aluminum, titanium and nickel base alloy.
3. A protective ring in accordance with Claim 2, wherein at least one of polyamide and polyethylene fibers known under the trade names KEVLAR and DYNEEMA, respectively, are included in the fiber-weave layers.
4. A protective ring in accordance with Claim 3, wherein both an inner and outer circumferential surface are each formed by a metal band.
5. A protective ring in accordance with Claim 4, wherein multi-stratum strips of metal bands and fiber-weave layers are joined at the ends by an adhesive to form the protective ring.

6. A protective ring in accordance with Claim 5, wherein two ends of the respective metal bands overlap and the fiber-weave layers extend between frontally opposite ends of adjacent metal bands.

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7. A protective ring in accordance with Claim 6, comprising at least two penetration sleeves with matching diameters assembled into one another to obtain a specific large wall thickness.

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8. A protective ring in accordance with Claim 1, wherein multi-ply strips of metal bands and polymer-bonded fiber-weave layers are wound spirally to obtain a protective ring of sufficient wall thickness.

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9. A protective ring in accordance with Claim 1, having sufficiently large wall thickness to act as a full containment.

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10. A protective ring in accordance with Claim 1, comprising a trapping layer of fiber material positioned outside the penetration sleeve for arresting breakthrough of fan blade fragments.

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11. A protective ring in accordance with Claim 1, comprising outer and inner bands constructed of sheet metal and at least one metallic intermediate band constructed of a metal weave of at least one of nickel, titanium, iron and aluminum.

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12. A protective ring in accordance with Claim 1, wherein the fiber layers are wound and comprising two outer

flanges being conformally integrated by the wound fiber layers.

5 13. A protective ring in accordance with Claim 1, wherein both an inner and outer circumferential surface are each formed by a metal band.

10 14. A protective ring in accordance with Claim 13, wherein multi-stratum strips of metal bands and fiber-weave layers are joined at the ends by an adhesive to form the protective ring.

15 15. A protective ring in accordance with Claim 14, wherein two ends of the respective metal bands overlap and the fiber-weave layers extend between frontally opposite ends of adjacent metal bands.

20 16. A protective ring in accordance with Claim 15, comprising at least two penetration sleeves with matching diameters assembled into one another to obtain a specific large wall thickness.

25 17. A protective ring in accordance with Claim 1, wherein multi-stratum strips of metal bands and fiber-weave layers are joined at the ends by an adhesive to form the protective ring.

30 18. A protective ring in accordance with Claim 1, wherein two ends of the respective metal bands overlap and the fiber-weave layers extend between frontally opposite ends of adjacent metal bands.

19. A protective ring in accordance with Claim 18, comprising at least two penetration sleeves with matching diameters assembled into one another to obtain a specific large wall thickness.

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20. A protective ring in accordance with Claim 1, comprising at least two penetration sleeves with matching diameters assembled into one another to obtain a specific large wall thickness.